MANAGEMENT COMMITTEE REVIEW DRAFT

2014
Annual Report to the DMMP Executive Committee
Implementation of the Dredged Material Management Act of 2001

Activities and Recommendations

PREPARED BY THE DMMP MANAGEMENT COMMITTEE

Approved by the Management Committee November 6, 2014

Executive Summary

This Annual Report presents an overview of the accomplishments of Maryland's Dredged Material Management Program (DMMP) during 2014 and provides recommendations for 2015.

Capacity, Authority and Funding: With the closing of the Hart-Miller Island (HMI) and Poole's Island placement sites, timely development of additional dredged material management options is crucial. The Maryland Port Administration (MPA) has a 20-year plan for dredged material management, but some projects face permitting or other risks to implementation and innovative reuse has not developed to the point of providing the desired one-third of annual Harbor dredged material management capacity.

The Water Resources Reform and Development Act (WRRDA) of 2014 authorizes increased project costs for Poplar Island and its Expansion, construction of the Mid-Chesapeake Bay project, and reversion of certain project cost sharing to former levels more favorable to the State. MPA and MDOT worked closely with the Maryland Congressional Delegation to secure WRRDA authorizations for Poplar Island Expansion and Mid Bay. However, federal funding reductions combined with significant cost increases could delay development of these placement options.

MPA continues to reach out directly to key leadership at the Corps and the federal Office of Management and Budget, and is working diligently through the American Association of Port Authorities (AAPA) as the Corps transforms its budget strategy for prioritizing Federal investments in new navigation infrastructure and revises existing or develops new performance measures to prioritize funding for maintenance dredging.

Program Management: MPA is working closely with the Corps Baltimore District office as that District updates its twenty year Dredged Material Management Plan. This plan will act as a roadmap for timely and quality project delivery for the Port of Baltimore for the next 20 years. A draft is expected in late 2014, with a final report due by April 2015.

In 2014, MPA's Total Maximum Daily Load (TMDL) Study Group finalized a report detailing concepts to achieve the nutrient reductions that will be required by discharge permits and the need for additional data collection.

Innovative and Beneficial Use: Major progress was made in 2014 when the Executive Committee approved a new strategy that includes not only innovative reuse but also beneficial use. The revised strategy has a long term goal of recycling at least 500,000 cubic yards (cy) annually. Short term goals are identified to implement projects using small to medium quantities of dredged material and to examine regulatory requirements to streamline regulatory processes. MPA and the Maryland Department of Transportation (MDOT) have explored the possibility of a public-private partnership (P3) that would recover placement capacity in a dredged material containment facility (DMCF), but there was not sufficient interest generated by a Request for Information to ensure a competitive solicitation process for a P3.

Stakeholder Engagement: Public outreach continues to be a critical component of the overall DMMP success story. Efforts in 2014 focused on expansion of the Cox Creek DMCF, reactivation of the Cox Creek Citizens Oversight Committee, and reopening of the Pearce Creek DMCF. MPA has continued to strengthen the overall outreach program to provide the public with a deeper understanding of the issues and encourage contributions of new ideas.

Baltimore Harbor Projects: MPA continues to work with the Department of Natural Resources (DNR) and the HMI Citizen's Oversight Committee on the HMI closure and long term management plan. The Cox Creek and Masonville DMCFs remain the only options currently available for placement of Harbor dredged material. MPA's request to the Maryland Department of the Environment (MDE) to modify the Cox Creek and Masonville discharge permits and create an overlay permit was posted for public review in January 2014. MDE is in the process of responding to comments received on the public notice and MPA anticipates that MDE may make a decision on the tentative permits in a few months. MPA continued remediation and habitat restoration in Masonville Cove and continued with design four trash interceptor mitigation projects and completed construction of one trash interceptor which is now operational. MPA continues to actively pursue the Coke Point site; and is in negotiations with the new owner who acquired the property in September 2014. MPA has begun studies of expanding the Cox Creek DMCF on MPA-owned uplands adjacent to the existing DMCF and is also exploring acquisition of the adjacent Cristal USA site. MPA also completed the necessary data collection to support a proposed pilot test of Confined Aquatic Disposal (CAD) adjacent to the Masonville DMCF. The permit application for the proposed CAD pilot test was submitted to MDE in late September 2014.

Chesapeake Bay Channels and Placement Sites: Significantly increased federal funding in federal fiscal years 2016 and 2017 will be required to expand the Poplar Island project. Placement needs beyond those met by Poplar Island Expansion would be addressed by longer-range plans for the Mid-Chesapeake Bay Islands project. MPA and the Corps are developing plans for design and construction of this project.

Upland Sites - Chesapeake and Delaware (C&D) Canal: MPA and the Corps' Philadelphia District agree that reopening Pearce Creek is the most viable option for placement of material dredged from the approach channels to the C&D Canal. The District has submitted an application for a Water Quality Certificate (WQC). If the WQC is issued, the District will proceed with the installation of a liner with the goal of having the DMCF ready to accept dredged material during the 2015 dredging cycle.

The Corps' Philadelphia District initiated steps to reopen and use Courthouse Point as an interim DMCF. However, MDE identified potentially significant concerns there and the District has decided not to reopen Courthouse Point while it considers MDE's comments requesting additional study and analysis.

If adequate interim capacity and the long-term Pearce Creek option are not available, the undesirable contingency plan is to transport material to Poplar Island. Extra costs are estimated at $5.4 million to $10.8 million annually, perhaps more than doubling the Philadelphia District's annual maintenance costs.

Contingency Plan – Ocean Placement: The contingency plan for disposal of Bay sediments continues to be utilizing an existing ocean placement site. The U.S. Environmental Protection Agency (EPA) and the Corps have given approval, which is contingent upon the sediments continuing to meet federal guidelines as determined by triennial testing. MPA and the Corps' Baltimore District took sediment samples in late 2012 and discussions with EPA regarding the test results continue into 2014. EPA is currently preparing correspondence that will renew the ocean placement option for each of the Upper Bay Channels for the next three years (2014 to 2017).

Projected New Work Dredging: Several significant projects will require new work (i.e., not maintenance) dredging in the future. These include completion of the 50-foot channel to its Congressionally authorized widths, enhancements to Seagirt Marine Terminal Berth 4 access channels, and dredging for expansion of existing private terminals and potential future public and private marine terminals.

Recommendations for 2015

- Work with the HMI Citizen's Oversight Committee and DNR to complete a closure plan for HMI and to begin implementation of the plan.

- Work with the federal government to support sufficient funding and beneficial policies for the Corps' dredging program serving the Port of Baltimore, emphasizing the significant funding increase needed for the Poplar Island Expansion.

- Work directly with the Corps and through AAPA to ensure that Corps' implementation guidance for WRRDA 2014 is in line with Maryland's understanding of the intent of the law.

- Work closely with the Corps' Baltimore and Philadelphia Districts in the update of their Dredged Material Management Plan to ensure a full understanding by the Corps of the Port of Baltimore's expected business growth and development and DMMP plans, so that the plans and schedules are fully coordinated.

- Pursue the requirements and steps necessary to bring Coke Point on line as a DMCF.

- Continue to review and evaluate the 2011 Harbor Team recommendations (See Appendix 6) concerning other future placement options, including other sites, opportunities for innovative reuse, and CAD.

- Implement the new Innovative and Beneficial Use Strategy. (See Appendix 4.)

- Support the Corps' Philadelphia District as it works with stakeholders and MDE to pursue dredged material placement capacity at previously used C&D Canal upland sites for placement of material dredged from the C&D Canal approach channels.

- Continue enhanced coordination efforts with the Corps at the District, Region and Headquarters levels, the Assistant Secretary of the Army for Civil Works, and the Office of Management and Budget on dredging and dredged material management funding requirements and planning to meet the current and future needs of the Port of Baltimore.

- Increase the public's knowledge, understanding, and support of the Port of Baltimore's Maryland's DMMP through strategic outreach to the communities, businesses, and schools in the vicinity of project sites.

- Continue to collect data and evaluate Best Management Practices (BMPs) that could be employed in meeting TMDL responsibilities in the most economical and environmentally responsible manner.

2014 Annual Report Narrative

Approximately 4.34 million cubic yards (mcy) of sediment must be dredged annually to maintain federal channels and anchorages at their authorized depths and widths to ensure reliable navigational channels for vessels transiting the Port of Baltimore. MPA and private sector partners dredge another 0.8 mcy annually for maintenance, new work, and expansion projects, and federal new work projects are estimated at 0.1 mcy of material per year. Altogether, MPA, private sector, and federal maintenance dredging, new work dredging, and expansion dredging needs are estimated at 5.24 mcy per year, a total of about 105 mcy over a 20-year planning period. All dredged material must be placed in approved placement sites or beneficially used.

Larger vessels are entering the Port of Baltimore from international destinations via the Suez Canal, and it is expected that an increased number of larger ships will call following the anticipated late 2015 or 2016 completion of the Panama Canal expansion. The achievement of the 50-foot deep berth and installation of the next generation of cranes at Seagirt Marine Terminal by MPA's P3 partner, Ports America Chesapeake, positions the Port of Baltimore to attract the potential cargo growth associated with the Panama Canal expansion. As one of only two U.S. East Coast ports that currently have a 50-foot deep navigation channel, it is critical that the Port have sufficient dredged material placement capacity to support maintenance of its 50-foot channel in terms of both depth and width in order to capitalize on that expected growth.

The State of Maryland's Dredged Material Management Program is a rolling twenty-year plan to address the State's needs to dredge channels for vessels transiting the Port of Baltimore and find appropriate locations to place the material dredged from the channels. Because of the duration of the DMMP, the complexity of the program, and need for coordination, changes generally occur gradually over time, and the program is adjusted as necessary.

I. KEY ISSUES

This report of the Management Committee provides updated information on all activities for the 2014 DMMP. In reviewing the year's work, it is clear that certain major issues are critical to the success of the DMMP and should be brought to the attention of the Executive Committee for the purpose of planning the year ahead. This section highlights these significant issues.

A. Capacity

Maritime dredging is driven by the needs and schedules of the Port's public and private sectors and local governments throughout the entire Harbor and Bay channel system. Maintaining capacity for placement of dredged material from both Harbor and Chesapeake Bay channels continues to be a major challenge to the Maryland DMMP. This challenge was exacerbated with the closing of Hart Miller (HMI) and Pooles Island, and is particularly challenging for the Harbor. Harbor material that was previously placed in the 1,000 acre HMI DMCF is now placed in two DMCFs that are each about 100 acres in size. The small sizes mean that both sites have limitations on annual placement capacities that MPA has not experienced in the past. Additionally, both Harbor sites have nutrient discharge limits that HMI did not have; these limits generally require holding water in the DMCFs for relatively long periods of time.

Due to the smaller surface areas and the discharge limits, the smaller Harbor sites do not allow for dewatering and consolidation in the same way that HMI did. As these sites begin to fill there will be years when no material can be placed in order to allow for dewatering and consolidation rest periods. Getting the last portions of capacity from these sites will be spread out over longer periods of time, making the final placement dates difficult to predict. This highlights the need for more placement capacity so that adequate dredged material placement capacity is available during the rest periods.

In addition to the annual maintenance dredging needs, new work dredging projects are expected in the foreseeable future. These projects will stretch the limits of the small Harbor sites even more than routine maintenance projects. For example, in response to MPA interest, the Corps' Baltimore District has initiated a study to widen the 50-foot channels to currently authorized widths. This study is expected to be completed by June 2017. Projects such as this will accelerate the need for additional placement capacity in both the Bay and the Harbor.

Innovative reuse options to provide a minimum reuse of 0.5 mcy annually are still in the planning stage, and at this time are estimated to provide one third of the annual capacity needed for Harbor material.

The overall strategy to accommodate the maintenance and new work dredging for the next 20 years is charted in Appendix 5 for annual approval by the Executive Committee so that options can be developed and made operational as needed.

Challenge: *Although the DMMP identifies projects with capacity for 20 years out, property acquisition, construction funding, and permitting pose the greatest challenge to implementation.*

B. Authorizations and Funding

Budget cuts, federal law, policy, and technical issues continue to affect the availability of State and federal funds for maintenance and new work dredging and for existing and future placement capacity. One or more of these issues affects every activity of the DMMP.

Passage of WRRDA 2014 has paved the way to move several priorities for the dredging and dredged material management programs forward. Poplar Island and Poplar Island Expansion authorizations have been modified to increase project costs; cost sharing for Poplar Island Expansion is likely to revert from the previous 65% federal/35% non-federal cost share to the originally planned 75% federal/25% non-federal; access to funds in the Harbor Maintenance Trust fund for maintenance dredging by the Corps may increase over time; and the Mid-Bay project was authorized. Additionally, the Corps will have authority to assume maintenance of the Seagirt and Dundalk Access Channels which were deepened with State funds several years ago, provided that a Corps study confirms that the deepening is economically justified and environmentally acceptable and that the deepened channels meet both permit requirements and Corps engineering and design standards. At the national level, the Corps will be preparing implementation guidance for WRRDA 2014 to define the components of the new law. MPA will review the guidance once it is available to determine how the implementation of projects may be affected.

MPA applauds the collective actions of those who advocated for WRRDA 2014, recognizing that they were instrumental in passage of the law. MPA also acknowledges and appreciates the work of elected officials, particularly the Maryland Congressional Delegation, and the Citizens Advisory Committee to ensure inclusion of provisions beneficial to the State of Maryland.

Notwithstanding the passage of WRRDA, federal funding reductions may have large impacts on maintaining channel infrastructure, and significant future increases in costs could delay development of future placement options including the Poplar Island Expansion, Mid-Bay Islands, Pearce Creek and Coke Point projects. There are also potentially significant cost implications for Innovative Reuse.

Constrained budgets are resulting in fewer funds for important dredging projects, studies and construction of environmental improvements, and containment projects across the nation. While WRRDA 2014 includes many beneficial provisions, the additional project authorizations in the law have significantly increased the demands on the Corps' construction budget. Due to the limited availability of federal funds, some ports are using state funds for projects that would otherwise be federally funded. The Port of Miami is currently using state funds for planning studies and the Port of Jacksonville is using state funds for construction projects. The Corps began addressing these constrained budgets through several initiatives including a new "top–down" approach to budgeting that would require the demonstration of performance measures in order for projects to receive funding, including Operations and Maintenance funding for dredging, as a means of accomplishing the national priorities, goals and objectives. The Corps is implementing a strategy for the Civil Works Planning programs that includes directives to focus funding on high priority activities. In addition, the Corps will be developing new procedures to comply with the recently issued Council on Environmental Quality (CEQ) "Principles and Requirements for Federal Investments in Water Resources" (P&R) which are intended to guide federal agency investments in water resource related projects. The Corps and other agencies will be developing new procedures after CEQ finalizes its Interagency Guidelines which accompany the P&R.

As the Corps moves forward to develop and implement these new policies and procedures, the Port of Baltimore, along with other US ports, has expressed a desire to work with federal agencies on streamlining, interagency reviews, cost benefit analysis, and other strategies outlined in the new procedures and the CEQ P&R. However, it should be acknowledged that the MPA has expressed concerns about some of the methods that may be employed in the Corps' proposals for performance based decision making for funding of dredging projects. The Port of Baltimore and its partners are committed to working cooperatively with the Corps on all policies and procedures to insure the continued availability of safe and reliable navigation channels.

Challenge: *MPA will need to continue to monitor the Corps of Engineers' budget very closely to identify any problem areas that could adversely affect vital maintenance and new work projects for the Port's navigation infrastructure. The Port of Baltimore must continue its enhanced advocacy for reasonable and fair consideration in the application of Federal budgeting strategies.*

II. PROGRAM MANAGEMENT

The State of Maryland DMMP was created in recognition of the importance of the long range planning and collaboration necessary to keep the dredging program on course. A committee hierarchy (see Appendix 1) was developed to ensure the success of this complex process. Committee members represent various federal and State agencies, port-related businesses, academia, and environmental and citizen groups. The broad based committee structure works cooperatively to study, evaluate, and proactively plan to ensure that dredging needs and dredged material management options for today and the future will be met. This report is provided annually by the Management Committee to inform the Executive Committee of the year's accomplishments as well as to highlight future challenges for the DMMP in the coming year. Memberships of the Management Committee and the Executive Committee are shown in Appendices 2 and 3, respectively.

A. The Corps' Dredged Material Management Plan

Maryland's DMMP and the Corps' Dredged Material Management Plan co-exist and are mutually supportive. Collaborative efforts have greatly helped in the development and implementation of both plans. During 2014, the Corps continued updating its Dredged Material Management Plan. The Corps is scheduled to publish its final updated Dredged Material Management Plan by April 2015. It will be essential to maintain strong links for communication and information sharing between the State and the Corps throughout the federal revision and updating process so that projections for dredging needs and dredged material placement capacity can be accurately tied to forecasted Maryland business growth and customer needs. Such cooperation can result in mutual efficiencies and success.

The Management Committee believes that the structure and operation of the State's DMMP as a collaborative and transparent process with the Port's stakeholders has been successful and should be maintained and enhanced as necessary in 2015 and beyond.

Challenge: *The State and the Corps must continue to work cooperatively in their DMMP activities as well as in the development of the Corps' updated Dredged Material Management Plan to assure timely information sharing, resolution of issues, development of innovative ideas and approaches, and identification of mutually beneficial outcomes.*

B. Achieving New Bay Restoration Goals

The development of total maximum daily load (TMDL) requirements for the Bay and its tributaries by the EPA will increase the operational and budgetary needs of MPA and Corps facilities in 2014 and beyond. In 2011, Bay watershed states and the EPA began the process of establishing Watershed Implementation Plans (WIPs) to address the target levels for nutrient (nitrogen and phosphorus) and sediment contaminants documented in the recently completed Chesapeake Bay TMDL. Port and dredging facilities have been assigned target load reductions through WIPs that were finalized in early 2012. All pollutant sources are being considered in the WIPs, so in addition to the direct discharges from the placement facilities, storm water loadings from existing terminals will have to be reduced or have their loads offset. Additional TMDLs for polychlorinated biphenyls (PCBs), metals, and trash are in development. In 2014, MPA's

TMDL Study Group finalized a report detailing concepts to achieve the coming reductions that will be required by discharge permits and the need for additional data collection.

***Challenge**: Current and future TMDLs have the potential for requiring additional monitoring, treatment, and/or offset purchases that will further stress resources currently directed toward dredging and placement.*

III. INNOVATIVE AND BENEFICIAL USE

In 2014, the Innovative Reuse Committee worked with MPA to re-vamp MPA's innovative reuse (IR) strategy. MPA sought input on the draft strategy from the Harbor Team, the Citizens Advisory Committee, and the Management Committee. These committees have strongly supported innovative and beneficial use of dredged material.

The DMMP Executive Committee approved the revised IR strategy (Appendix 4) at its June 4, 2014 meeting. Major features of the revised strategy include:

> Consider innovative reuse and beneficial use together, even though Maryland law defines them separately. The reason for this new approach is that anything that diverts material from a DMCF or recovers placement site capacity in a DMCF while meeting environmental, regulatory and navigation requirements and considering realistic costs and benefits is viewed as in the best interest of the State of Maryland.
>
> Establish the following long-term and short-term goals:
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> > Long Term Goal: Make innovative and beneficial use of dredged material to recover or save capacity in DMCFs an implemented component of the Dredged Material Management Program in Maryland, in order to promote the long-term viability of the Port of Baltimore. The long term goal is to recycle at least 500,000 cubic yards annually.
> >
> > Short Term Goal: Within the next two to five years, implement several strategically selected, small to medium quantity innovative and beneficial use projects with Harbor material to test and ameliorate regulatory, financial and public acceptance limitations that currently exist.
>
> Identify activities needed to provide a basis for implementing the long term goal. The activities include selecting and implementing several small to medium scale projects as test cases, revisiting regulatory issues with an eye towards streamlining and establishing a predictable regulatory process for businesses interested in participating in innovative and beneficial use projects, siting of a processing facility, reviewing sediment quality data, creating more realistic cost/benefit analyses, developing a contracting strategy for implementing innovative and beneficial uses, continuing to engage a P3 process, and searching for creative funding mechanisms and potential partnerships.

MDOT and MPA issued a Request for Information (RFI) in December 2013 related to a potential P3 for capacity recovery in the Cox Creek DMCF by converting dredged material into lightweight aggregate that would be sold commercially by the private party. That RFI process resulted in a minimal response, suggesting that there was insufficient interest to ensure a competitive solicitation process for a P3. As a result, MDOT and MPA are supporting private sector opportunities for innovative reuse at other locations in the State to see if the private sector can solve for some of the risk associated with publicly financing a technology that has yet to be utilized on a full scale basis.

***Challenge**: Implement the revised innovative and beneficial use strategy.*

IV. STAKEHOLDER ENGAGEMENT

A. Community Outreach

The MPA continues to increase its visibility and the public's knowledge of the Port of Baltimore, its operations and projects, and their importance to the State of Maryland. MPA works continuously to improve collaboration, inclusiveness, and transparency with its partners, as well as to increase outreach, Port education, communications, and visibility of Port programs. Through the DMMP, more than 10,000 people per year have the opportunity to learn about the Port of Baltimore by visiting DMCFs and participating in off-site events, such as community events, meetings, conferences, and educational programs.

The MPA continued an awareness and relationship building effort with Northern Anne Arundel County community organizations in the vicinity of the Cox Creek DMCF. This effort was highly successful for the MPA in expanding awareness about Port activities and developing closer ties with community leaders in that area. On April 26, 2014, MPA hosted a community open house event at the Cox Creek DMCF that included a riding tour of the entire facility, an early morning bird walk, and hands-on activities. Approximately 60 citizens and other interested parties attended the event. The Cox Creek Citizens Oversight Committee was reactivated. The first meeting of the Committee was held on July 30, 2014, and MPA provided an overview of the feasibility study on the potential expansion of the Cox Creek DMCF. MPA has also implemented a coordinated outreach program, providing presentations to community organizations and business groups in Northern Anne Arundel County to familiarize their members with the expansion project.

MPA's commitment to community, education, and the environment is demonstrated at the Masonville site where community members can visit the Masonville Cove campus and participate in programs hosted by Living Classroom Foundation and the National Aquarium which focus on Masonville Cove restoration, the Bay Watershed, and the Port of Baltimore. The National Aquarium began its Masonville Cove Small Watershed Action Plan, providing an opportunity for the community to take part in the planning and action of environmental projects. Last year's designation as an Urban Wildlife Refuge Partnership by the U.S. Fish and Wildlife Service has provided expanded opportunities for environmental stewardship through internships, wildlife management, and funding. The second open house event at Masonville Cove was held October 18, 2014 in conjunction with PortFest, where members of the public could learn more

about the project, the Chesapeake Bay, and the Port. Community members participated in an early morning bird walk, tours of the DMCF, and hands-on environmental activities.

Tours at Maryland's dredged material placement sites continue to grow and have proved to be excellent teaching tools for both school students and adults. To help their students meet new environmental literacy graduation requirements, local teachers brought them on field trips to Cox Creek, Hart-Miller Island, Masonville, and Poplar Island. Through hands-on field activities, teachers and students discovered how MPA is playing a crucial role in habitat restoration. Additionally, educators and industry job trainers received a firsthand look at the importance and scope of the Port of Baltimore through a week-long summer externship organized by the Baltimore Port Alliance Education and Outreach Committee, working collaboratively with Anne Arundel Community College and the Southeast Maritime and Transportation Center (SMART) of Norfolk, VA. Twenty-two participants from the Baltimore region, Philadelphia, Houston, and Norfolk spent time with 21 maritime agencies, learning about the vast Port infrastructure and the coordination needed to deliver cargo from one destination to another.

MPA is actively supporting the Masonville Cove stakeholders as they explore partnership opportunities with other State and federal agencies that can help support the Masonville Environmental Education Center campus management and operations. The US Fish and Wildlife Service designation of Masonville as an Urban Wildlife Refuge continues to lead to new partnership opportunities and annual funding. The stakeholders at Masonville Cove are developing a comprehensive business plan that includes a diverse funding portfolio. Partners continue to pursue funding opportunities from foundations and corporate partners.

***Challenge**: Stakeholders must establish long-term financial and management sustainability of the Masonville Cove Environmental Education Center campus.*

B. MPA and Corps Collaboration

Given the continued significant challenges facing the State's DMMP and Corps' Dredged Material Management Plan, the Management Committee continues to encourage regular executive level strategy meetings between MPA and the Corps.

Shortfalls in the Corps' dredging budgets are affecting channel reliability at a time when larger and wider vessels with drafts near 50 feet are calling on the Port of Baltimore more frequently. Full availability of authorized channel depths and widths is critical to safe navigation. The larger the vessel, the less margin there is for error. Groundings could have significant adverse effects on the business of the Port, the ecology of the Bay and those who use it. This situation requires close coordination and collaboration among MPA, the Corps, and the Association of Maryland Pilots to minimize impacts on navigation. Through 2014, the MPA has continued to employ a coordinated outreach strategy to all levels of the Corps, the Assistant Secretary of the Army for Civil Works, and the Office of Management and Budget to include developing relationships with all levels of decision makers within the Corps and the agencies responsible for federal budget recommendations. Working through AAPA, MPA continues to be heavily engaged with the Corps as it develops its budget transformation strategy, a national initiative intended to adjust navigational needs to available dollars, and its implementing guidance for WRRDA 2014. These lines of communication are important to establishing a greater understanding of the Port of

Baltimore's business plans, local and regional economic impacts, and expectations for growth that drive the needs of the DMMP.

Challenge: *With ever increasing constraints on federal funds and new federal agency procedures and policies, coordination among MPA, the Corps, Port customers, stakeholders, and the Pilots must be further strengthened. In addition, the MPA must continue to communicate with all levels of decision makers within the Corps at the District, Division and Headquarters levels as well as with the agencies responsible for federal budget recommendations.*

V. BALTIMORE HARBOR PROJECTS

A. Hart-Miller Island

Work continues on the closure plan for HMI and MPA continues to coordinate plan development with the HMI Citizen's Oversight Committee and DNR. DNR has a substantial stake in the closure of HMI as it will transition into a State park; MPA and DNR are in active discussion about the transition. The Maryland Environmental Service (MES), the University of Maryland Center for Environmental Science, and others are working with MPA to resolve the issue of how to manage over 600,000,000 gallons of water in the North Cell. The North Cell has three spillways. The two northern spillways (007 and 008) have pH values within discharge permit limits, believed to be a result of vegetation growth around those spillways. Water discharges occurred from the northern spillways during the summer of 2014; however, volumes were low due to the discharge permit flow restriction of two million gallons per day. The eastern North Cell spillway (009) consistently has low pH values. MES has contracted with the University of Maryland Center for Environmental Science and the University of Maryland Wye Research Educational Center to address the acidification problem and is conducting extensive monitoring to determine best strategies for managing pH. MES has provided a Master Plan of HMI existing features that will need to be developed, enhanced or removed for the development plan. MES is also working with technical experts to develop a hydraulic model that analyzes the island's stormwater holding capacity as it relates to the habitat goals. The initial findings (Phase I) of this work will provide the critical information needed to determine the most feasible options for the final closure plan. Phase I is expected to be completed in December 2014. In April, MES performed a controlled burn over a 20 acre area to eradicate *Phragmites* in the DNR marshes.

Challenge: *Options for implementation plans and budget concerns are being evaluated to assess the ability of State agencies to create desirable habitat and manage HMI after the closure plan is completed.*

B. Cox Creek

In early 2014, approximately 600,000 cy of dredged material from the Brewerton Angle channel was placed in the Cox Creek DMCF. An additional 15,000 cy was placed from private sector projects. A nutrient monitoring plan has been established to document and estimate the potential pollutant loads that are expected to be released into the Harbor in the future. In March 2012, MPA initiated a formal request to MDE to modify the Cox Creek and Masonville State discharge permits and create an overlay permit to allow for the sharing of current and future nutrient waste load allocations for Cox Creek, Masonville, and future MPA facilities. The draft discharge and

overlay permits were posted for public review in January 2014. In response to the public notice, the Chesapeake Bay Foundation (CBF) submitted a letter to MDE regarding issuance of the overlay permit specifically addressing the MPA wasteload allocation to the Baltimore Harbor for current and future DMCFs. MDE is in the process of responding to comments received on the public notice and MPA anticipates that MDE may make a decision on the tentative permits in a few months. As of this time, Cox Creek remains the primary location of a potential Innovative Reuse processing facility.

C. Masonville

At the time of this report, there was no dredged material inflow to Masonville in 2014.

Remediation and habitat restoration continued in Masonville Cove. Work included clearing invasive vegetation, hauling soil, and capping. The large nontidal wetland in Access Zone 2 was replanted with herbaceous vegetation, shrubs, and trees after previous plantings were unsuccessful because of deer predation and poor establishment. Fine-tuning of plantings in Access Zone 1 continued, with replacement of dead trees as well as shrub and grass plantings at the living shoreline expansion. Fine-tuning of the plantings in the fringe wetland also occurred.

The continued improvement of substrate in Masonville Cove resumed in 2014.

MPA coordinated with DNR to construct an eel passage mitigation project at Daniels Dam; the first eels successfully used the newly constructed eel passage in mid-2014. Another mitigation project in partnership with DNR, shad and herring stocking, completed its second year in 2014. DNR considered the first year's efforts a success and is evaluating the second year's efforts.

MPA continued coordination with Baltimore City regarding the Biddison Run stream restoration, but City funding constraints have delayed progress on the project.

As part of the mitigation requirements for the Masonville project, MPA agreed to install five trash interceptors. MPA continued to coordinate with various partners to develop four of the trash interceptor mitigation projects. For the fifth interceptor, MPA coordinated with the Waterfront Partnership of Baltimore to help fund construction of the Jones Falls Waterwheel, which began operation in May 2014. As of October 9, 2014, 498 cy (108.2 tons) of debris had been removed by the waterwheel. The Masonville Cove trash interceptor is in final stages of design. The remaining three trash interceptors (Carroll Park, Dundalk Marine Terminal, and Westport) are in various stages of design.

As noted in Section V.B., above, the Cox Creek and Masonville discharge permits are linked regarding the allowed pollutant loads released into the Harbor. See Section V.B. for details.

D. Coke Point

The Harbor Team recommended Coke Point as a third potential DMCF in 2003, and reaffirmed this recommendation in 2011. MPA completed a Draft Feasibility Study Report for the site in 2012. Permitting and environmental impact documents for this option have been delayed until MPA acquires the property. Annual dredged material placement capacity for this site is expected to be about 1.0 mcy.

Property acquisition and environmental remediation are the primary challenges associated with the Coke Point portion of the Sparrows Point property, which includes land for both a DMCF and a potential roll on-roll off/auto terminal. Site ownership has changed on numerous occasions over the past ten years; the newest owner, Sparrows Point Terminal (SPT) purchased the property in September 2014. As of this writing, MPA and the new owner are involved in ongoing discussions regarding acquisition of property.

Challenge: *Timely conclusion of property acquisition, successful permitting, and sufficient funds will be needed in order to accomplish necessary remediation and construct a DMCF at this site.*

E. Cox Creek Expanded and Confined Aquatic Disposal

The Harbor Team Recommendations of 2011 included a combined Cox Creek-Millennium placement option as a backup to Coke Point, and a CAD pilot project.[1]

In 2014, MPA initiated Stage 1 of a feasibility study to evaluate the potential expansion of the Cox Creek DMCF onto adjacent MPA owned property. Outreach to interested stakeholders began and is continuing. Separately, MPA is exploring the possible acquisition of the Cristal USA, Inc. site (formerly known as Millennium Inorganic Chemicals), which is adjacent to MPA's Cox Creek property, and is being offered for public sale. A second stage of the feasibility study may occur pending those negotiations.

MPA has begun interagency coordination and public outreach with key stakeholders for a pilot CAD project at Masonville. Initial work began with input from the Maryland Geological Survey (MGS), MDE, and Anne Arundel County. Anne Arundel County requested information regarding groundwater flow. MGS completed a groundwater study and the results indicated that the proposed CAD project would not adversely affect groundwater aquifers or Anne Arundel County drinking water wells. The results were presented to MDE, the County and the CBF. MPA presented the proposed pilot project to the inter-agency Joint Evaluation Committee, which includes the Corps, MDE, and the other resource and regulatory agencies. MPA submitted a wetland permit application in late September 2014 with projected construction of the pilot project in mid-2015, if it is permitted.

VI. CHESAPEAKE BAY CHANNELS AND PLACEMENT SITES

A. Paul S. Sarbanes Ecosystem Restoration at Poplar Island and Poplar Island Expansion

The Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island, generally known as Poplar Island, continues to be a national showcase for the beneficial use of dredged material. Significant positive environmental benefits have already been identified though the project is still

[1] CAD is defined as excavation of cells beneath existing navigation channels or anchorages by dredging in areas where there is commercial-grade sand and gravel underneath the channels or anchorages. These cells would be backfilled with material from maintenance dredging. In most cases, overburden material would have to be removed to access the sand and gravel. This overburden material would be placed in a dredged material containment facility. The commercial-grade sand and gravel would be used in upland construction projects or possibly in beneficial use projects such as capping contaminated areas elsewhere in the harbor.

far from complete. Nesting sea and shorebirds, predatory birds, terrapins, and fish can be found at the site. Habitat restoration continues with grading in the undeveloped wetland areas; the next planting events are scheduled for spring 2015 and 2016. Monitoring of projects also continues. There was no inflow of dredged material at Poplar Island during the 2013/2014 dredging season. For the 2014/2015 dredging season, it is anticipated that approximately 2.5 to 2.8 mcy of dredged material will be placed at Poplar Island. This includes approximately 0.4 mcy from the C&D Canal approach channels, with the remaining material coming from the Bay Channels.

Poplar Island remains the only placement option for sediments dredged from Bay channels located in Maryland waters south of Pooles Island. With authorization of the increased costs at the Poplar Island project in WRRDA 2014, the next challenge will be ensuring sufficient funding within the Corps' budget to complete expansion of the project. In federal fiscal years 2016 and 2017 substantial increases over recent funding received for the Poplar Island project will be required. Working with all parties involved in the federal budget process to advocate for increased budgetary resources to begin this next major construction phase of the project will be a major focus for MPA in 2015.

Challenge: *MDOT and MPA need to work with all levels of the Corps of Engineers, the federal Office of Management and Budget and the Maryland Congressional Delegation to ensure sufficient funding in the Corps budget in federal fiscal years 2016 and 2017 to complete expansion of the project.*

B. Mid-Chesapeake Bay Island Ecosystem Restoration Project - James Island and Barren Island (Mid-Bay)

One of the strategies for providing capacity needed for Bay channel dredged material after Poplar Island and its Expansion have been fully utilized is implementing other island protection and restoration south of Poplar Island, in the Mid-Chesapeake Bay. The Corps and MPA have developed and approved a plan for Barren Island and James Island. The Mid-Bay project has the strong support of the Dorchester County government and local citizens. WRRDA 2014 authorized the Mid-Chesapeake Bay project for construction. MPA and the Corps are in discussions for the design agreement for the project and the timing of project construction. It is expected that these items will be decided in 2015.

Challenge*: MPA and the Corps will need to work closely in designing the project and developing a plan for project construction and construction funding to insure that the Mid-Bay project is available in a timely fashion to satisfy the WRRDA authorization requirements and meet dredged material placement needs.*

C. Upland Sites - Chesapeake and Delaware Canal

The C&D Canal is important to the Port of Baltimore as it provides the shortest route to the Atlantic Ocean and is particularly favored by many auto-carrier ships making the journey between Baltimore and ports in New York/New Jersey and New England.

Planning has been underway since 2009 to identify a placement site to replace the Pooles Island open-water site that closed in 2010. The Corps' Philadelphia District is responsible for maintenance of the upper Bay approach channels and the C&D Canal proper. That District owns

the DMCFs along the approach channels and the Canal itself. The Philadelphia District has historically used the Courthouse Point and Pearce Creek DMCFs for placement of approach channel material. The Philadelphia District also utilizes a number of local DMCFs along the Canal (including Bethel and Chesapeake City) for material dredged from the Canal proper.

MPA has been working with the Philadelphia District to reopen Courthouse Point and Pearce Creek in Cecil County. Both have additional capacity that was not needed when Pooles Island was available for open water placement but will be needed soon. Both sites require water quality certificates from MDE to enable the Corps to use them for dredged material placement.

Due to concerns about groundwater degradation in the vicinity of the Pearce Creek site from previous dredged material placement at the site, the Philadelphia District commissioned a study of groundwater of the site by the US Geological Survey. This study was released in 2013 and looked at potential connections between the Pearce Creek site and groundwater. The study found that the site has contributed to groundwater degradation because the confining layer in the Magothy aquifer, under the DMCF, has a hole which has allowed the migration of total dissolved solids (TDS) from the DMCF into groundwater. Many of the homeowner wells in the communities surrounding the DMCF draw water from the Magothy aquifer.

As a result of the findings of the US Geological Survey study, MDE has indicated that a liner and provision of a safe, adequate water supply for the adjacent communities are needed before it will issue a WQC for use of the Pearce Creek site. This WQC is required in order to reactivate the site for dredged material placement. The Philadelphia District is proceeding with the design of a liner to prevent migration of elevated total dissolved solids into groundwater.

In 2013, the Philadelphia District initiated steps to use Courthouse Point as an interim DMCF. Due to concerns about potential groundwater issues and in response to a request from MDE, the Philadelphia District sampled existing monitoring wells and drilled new wells in the vicinity to support its application for water quality certification. Groundwater data was collected and the results were discussed with MDE. MDE has since advised the Philadelphia District that further investigation of the water quality impacts in the vicinity of the facility is needed. The Philadelphia District Corps is evaluating what future actions are necessary based on MDE's comments. In the meantime, the Courthouse Point site will not be used for dredged material placement.

At its December 2013 meeting, the DMMP Executive Committee concurred with schedules agreed to by MPA, MDE and the Philadelphia District Corps to proceed with various tasks to facilitate re-opening the Pearce Creek and Courthouse Point DMCFs. The original schedules had targeted re-opening the Courthouse Point site by October 2014 and the Pearce Creek site by October 2015. At its June 2014 meeting, the Executive Committee reconfirmed the existing schedule for Pearce Creek; however the schedule for re-opening Courthouse Point is on hold as the Corps reassesses next steps based on concerns expressed by MDE.

The Corps submitted its application for a WQC for Pearce Creek on July 1, 2014. MPA is funding a water supply line from the Town of Cecilton to properties within the zone of influence of the groundwater contamination. Various agreements and approvals have been obtained to

enable the installation of a new water system to proceed. On April 9, 2014, the Smart Growth Coordinating Committee approved the project as its location is outside a Priority Funding Area. The Maryland Port Commission approved proceeding with the project on May 6, 2014. Agreements are in place with Cecil County and the Town of Cecilton to proceed with the water supply project. The Town of Cecilton, which has its own community well, will be the provider of the new water supply. Extensive outreach has been ongoing and will continue in West View Shores, Bay View Estates, and Sunset Pointe. MPA and the Philadelphia District Corps hosted a community open house on May 31, 2014 and distributed a fact sheet. Approximately 135 residents attended. A website specific to the project is being developed to aid in the outreach effort and provide transparency to track the overall progress. MDE held a public hearing in the community on September 27, 2014 to receive comments on the Corps' application for a WQC. If the WQC is issued, the Philadelphia District, Corps of Engineers will proceed with the installation of a liner with the goal of having the DMCF ready to accept dredged material during the 2015 dredging cycle. MPA hosts bi-monthly meetings with community leaders.

The only currently identified alternative to using the Pearce Creek and Courthouse Point sites is to transport the dredged material to Poplar Island, which would result in added expenditures of roughly $5.4 to $10.8 million annually. Using Poplar Island for C&D Canal dredged material will also deplete Poplar's capacity, which is needed for maintenance of the channels south of the C&D approach channel.

Challenge: *Collaboration and coordination among the Corps, MPA, MDE, Cecil County, the Cecil County Health Department and citizens is needed to find and implement solutions which will enable use of the Pearce Creek DMCF and provide safe drinking water for areas within the zone of influence of the DMCF. Coordination among the Corps, MPA, MDE, Cecil County and the Cecil County Health Department will be needed to determine a path forward for the Courthouse Point site.*

D. Lower Bay Sites

Most ocean-going vessels travel to and from the Port of Baltimore through the southern approach commonly referred to as the 50-foot channel, a deep north-south route extending 150 miles from the Port of Baltimore to the Atlantic Ocean at Cape Henry, Virginia. The Lower Bay channels servicing Port-bound vessels include Cape Henry, York Spit and Rappahanock Shoal. Placement capacity is adequate for the next 20 years. The placement sites include the Norfolk Ocean Disposal Site, the Wolf Trap Alternate and the Rappahannock Shoal Deep.

VII. CONTINGENCY PLANNING - OCEAN PLACEMENT

Ocean placement of dredged material at the Norfolk Ocean Disposal Site is an alternative that could be included in the Maryland DMMP as a contingency option if other placement options are not available. Ocean placement of dredged material is regulated under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972, which requires that any proposed placement of dredged material into ocean waters be evaluated through the use of criteria published by EPA.

The Corps' Baltimore District and the EPA established a schedule for the triennial sediment testing to be conducted as a requirement of maintaining authorization for ocean placement. To satisfy this requirement, sampling was conducted in late 2012 and laboratory analyses were completed in 2013. EPA is currently preparing correspondence that will renew the ocean placement option for each of the Upper Bay Channels for the next three years (from 2014 to 2017). MPA will continue the triennial sediment testing required for maintaining the EPA and Corps authorizations that are necessary to allow the retention of the ocean placement option as a component of the overall DMMP planning efforts.

The Baltimore District is continuing to update its Dredged Material Management Plan. As the update process moves forward, the Corps will evaluate the use of ocean placement as a contingency plan. If ocean placement is determined to be a preferred alternative in the Corps' Dredged Material Management Plan, the Corps would prepare an Environmental Assessment for the ocean placement option and release a public notice in both Maryland and Virginia. The Corps indicates that federal cost sharing would not be available for ocean placement even if it is included as a viable option in its Dredged Material Management Plan.

Challenge: *MPA needs to continue regular testing to ensure that ocean placement is a viable contingency alternative.*

VIII. PROJECTED NEW WORK DREDGING

Several significant projects will require new work (i.e., not maintenance) dredging in the future. In February 2012, the MPA requested that the Baltimore District complete the congressionally authorized second phase of the Baltimore 50-foot channel project, i.e., bring all channels in this project from their current widths to their authorized maximum widths. Generally, in the lower Bay, channel widths would increase from 800 feet to 1,000 feet, and in the upper Bay and Harbor main channel widths would increase from 700 feet to 800 feet. The Corps and MPA have initiated the preliminary steps for the study required to analyze this project. Completion of the project will require dredging of approximately 5.8 mcy in Maryland waters and 7.2 mcy in Virginia waters.

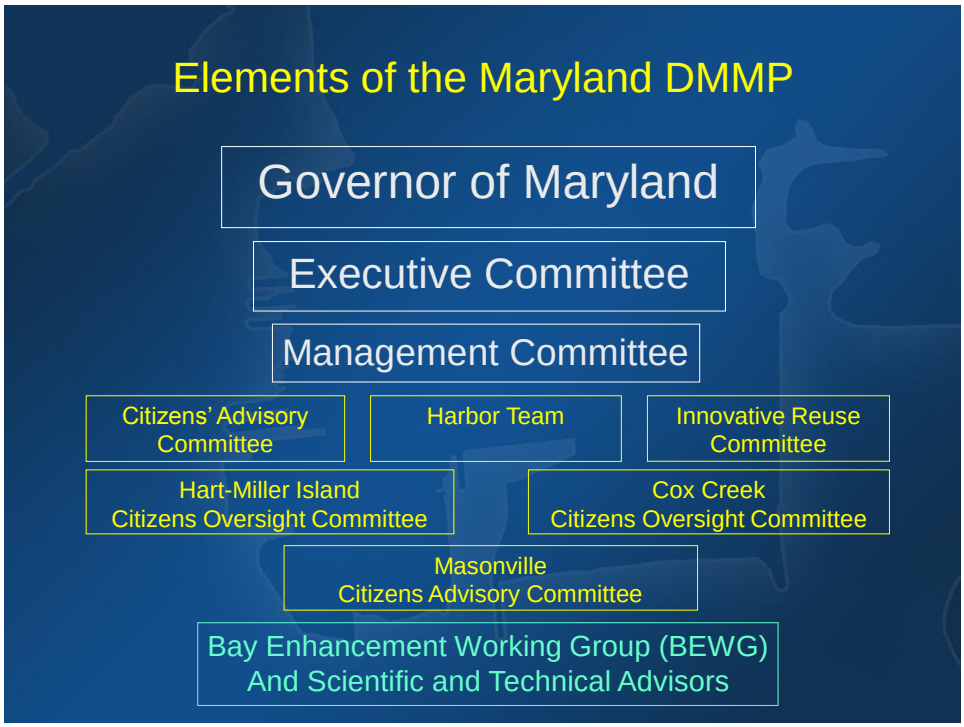
MPA is planning enhancements to improve the use of Seagirt Marine Terminal by widening access in the Seagirt-Dundalk Connecting Channel and the Dundalk West Channel to accommodate turns of larger vessels. To assist with this effort, MPA applied for and was awarded a $10 million federal Transportation Investment Generating Economic Recovery (TIGER) grant to build more access to rail, expand storage at Fairfield Marine Terminal, and help widen the channel at Seagirt Marine Terminal to accommodate bigger ships. Plans for the project include using approximately 835,000 cy of material dredged from the Seagirt channel to fill in an outdated wet basin at Fairfield Marine Terminal, thereby creating 7.6 acres that can be used for car and heavy equipment storage. The project is scheduled for completion by the spring of 2016.

As cargo continues to grow, MPA will eventually need new marine terminals, which it estimates will require upwards of 9.0 mcy to 10.0 mcy or more of new work dredging. MPA also expects

some private sector new work dredging for expansion of existing private terminals and potentially even a new terminal.

Challenge: *Sufficient dredged material placement capacity for new work dredging projects will be needed in order to meet the needs of a growing port and economy over the next 20 to 30 years.*

APPENDIX 1: ELEMENTS OF THE MARYLAND DMMP



APPENDIX 2: 2014 MEMBERS OF THE DMMP EXECUTIVE COMMITTEE

Chesapeake Bay Foundation
Alison Prost
Maryland Executive Director

DMMP Citizens' Advisory Committee Liaison
Francis Taylor
North Point Peninsula Council

DMMP Committee Liaison
Donald Boesch
University of Maryland Center for Environmental Science

Maryland Department of Natural Resources
The Honorable Joseph P. Gill (Co-Chairman)
Secretary

Maryland Department of the Environment
The Honorable Robert Summers
Secretary

Maryland Department of Transportation
The Honorable James T. Smith, Jr. (Co-Chairman)
Acting Secretary

U.S. Army Corps of Engineers
Colonel J. Richard (Trey) Jordan, III
District Engineer, Baltimore

U.S. Army Corps of Engineers
Lt. Colonel Michael A. Bliss
District Engineer, Philadelphia

APPENDIX 3: 2014 MEMBERS OF THE DMMP MANAGEMENT COMMITTEE

Association of Maryland Pilots
Captain Eric Neilsen
Captain Jessie Buckler (alternate)

Baltimore Port Alliance
Rupert Denney

Chesapeake Bay Foundation
Alison Prost

DMMP Citizens Advisory Committee
Francis Taylor

EPA Region III
Renee Searfoss

Maryland Department of the Environment
Matthew Rowe

Maryland Environmental Service
James Harkins

Maryland Geological Survey
Richard Ortt

Maryland Port Administration
Dave Blazer

Maryland Department of Natural Resources
Bruce Michael

Maryland Department of Transportation Policy & Governmental Affairs
Billy Hwang

National Marine Fisheries Service
Vacant

NOAA Chesapeake Bay Office
Peter Bergstrom

Rukert Terminal Corporation
Steve Landess, P.E.

U. S. Army Corps of Engineers, Baltimore
Steve Brown
Justin Callahan (alternate)

U. S. Army Corps of Engineers, Philadelphia
Anthony DePasquale
Tim Kelly (alternate)

U. S. Fish & Wildlife Service
Genevieve LaRouche
Bob Zepp (alternate)

University of Maryland Center for Environmental Science
Donald Boesch
(DMMP Management Committee Liaison)
David Nemazie (alternate)

APPENDIX 4: UPDATED STRATEGY FOR INNOVATIVE AND BENEFICIAL USE OF DREDGED MATERIAL IN MARYLAND'S DMMP
Approved by DMMP Executive Committee
June 4, 2014

The Maryland Port Administration has worked to find ways to recycle a significant percentage of the material annually dredged from Baltimore Harbor channels. This is a critically important task because placement capacity for Harbor material is reaching a crisis point. It has proven extremely difficult to find a single large-scale solution for innovatively reusing dredged material that is technically sound, financially affordable and able to be permitted under state and federal regulations. MPA now seeks to develop a short term approach to address these impediments, in order that the long term goal can be achieved. This document lays out the elements of the new approach. This strategy has been developed in concert with MPA's Innovative Reuse Committee (IRC) and the Innovative Reuse Technical Team (IRTT).

In updating the innovative and beneficial use strategy, MPA incorporated lessons learned from the demonstration projects that it conducted over the past several years and the lessons learned from the recent Request for Information (RFI) for a proposed public-private partnership project (P3) to recover dredged material placement capacity in the Cox Creek Dredged Material Containment Facility (DMCF). This strategy is intended to complement additional P3 efforts aimed at recovering capacity in the Cox Creek DMCF, as indicated in strategic action 9 of this document.

Maryland law defines innovative reuse and beneficial use separately. The IRTT and the IRC believe that it is time to consider these uses together because anything that diverts material from a DMCF or recovers placement site capacity in a DMCF while meeting environmental, regulatory and navigation requirements and considering realistic costs and benefits is viewed as in the best interest of the State of Maryland.

The IRC and the IRTT have reviewed policies in other states and believe that Maryland could benefit from the experience of these states.
The activities resulting from the strategies described in this document will be reviewed by the IRC and other DMMP participants and are intended to provide a basis for implementing the long term goal.

Long Term Goal: Make innovative and beneficial use of dredged material to recover or save capacity in DMCFs an implemented component of the Dredged Material Management Program in Maryland, in order to promote the long-term viability of the Port of Baltimore. The long term goal is to recycle at least 500,000 cubic yards annually.

Short Term Goal: Within the next two to five years, implement several strategically selected, small to medium quantity innovative and beneficial use projects with Harbor material to test and ameliorate regulatory, financial and public acceptance limitations that currently exist.

Strategies: The following actions will be organized and managed by the MPA, with advice and oversight from the Executive Committee, the IRC, the IRTT, and other interested stakeholders. It is envisioned that they may occur simultaneously.

1. Prepare for and engage the Maryland Departments of the Environment (MDE) and Natural Resources (DNR) as well as other relevant permitting agencies in discussions about reevaluating regulatory policy for dredged material, with the goal of facilitating greater innovative and beneficial uses of Harbor material in appropriate projects.
    a. Convene high-level dialogue between MDE, DNR and MPA to discuss a potential new regulatory approach for the management of dredged material. Ensure that EPA and other federal agencies as appropriate are included in this discussion.
    b. Request regulatory agencies to designate a staff representative to participate on the IRC.
    c. Review policies in New Jersey, Massachusetts and Pennsylvania to assess how they might apply in Maryland.
    d. Review the recent MDE / industry process for development of streamlined regulations for composting as a potential process model for developing a regulatory framework for dredged material.
    e. Based on this review, consider drafting new statewide policy or legislation, as appropriate, for the innovative and beneficial use of dredged material from Baltimore Harbor.

2. Collaborate on plans to expand Cox Creek:
    a. Direct the Cox Creek Expansion Project Delivery Team (PDT) and IRTT to work together to develop a master plan that reserves space for a dredged material processing facility.
    b. Direct the Cox Creek Expansion PDT to determine if dredged material from the existing DMCF can be used in dike construction for the expansion project.
    c. Direct the Cox Creek Expansion PDT to investigate the practicality of segregating and stockpiling material of varying physical and chemical quality in the expanded Cox Creek DMCF in order to facilitate its reclamation for innovative and beneficial uses.
    d. Develop a characterization of existing material in the Cox Creek DMCF for sediment quality and composition.
    e. Evaluate options already developed by MPA and make recommendations for a processing center at Cox Creek.

3. Review sediment quality data for harbor maintenance material to identify potential channel locations of "better" quality material that would be more appropriate for innovative or beneficial use.

4. Implement on a demonstration basis as many short term projects as possible. For example:
    a. Reach out to local material manufacturers and others in the sand and gravel industry to examine the feasibility of accepting small quantities of dredged material from Cox Creek to test capability of processing into useful products.
    b. Perform targeted reviews of locations and capacities of Maryland mines and quarries as alternatives to DMCFs; include consideration of transportation issues and protection of surface and ground water.
    c. Locate brownfields and landfills where dredged material combined with Portland cement or other pozzolanic materials could be used for reclamation, capping or daily cover. Perform necessary testing to obtain regulatory approval for placement on these sites.
    d. Review the fly ash reuse model developed by Maryland energy generators, which turned fly ash into a sought-after resource instead of a waste, in an effort to create a similar model for dredged material.
        i. Explore the "broker/jobber" model used for fly ash to assess its feasibility for dredged material reuse.
        ii. Engage regional cement manufacturers regarding possible dredged material demonstration projects.
    e. Seek demonstration areas in the harbor to restore or create wetlands as well as to restore eroded shorelines using Harbor material, and engage with DNR and MDE about implementation of such projects.
    f. Identify MPA and other State agency construction or rehabilitation projects, including those of the State Highway Administration that could potentially incorporate some element of innovative or beneficial use of dredged material, including small quantity projects.
    g. Identify projects where Harbor dredged material could be innovatively or beneficially used to enhance climate change resilience.

5. Develop an analysis of the economic value of regained placement capacity as well as the value of the environmental benefits of innovatively or beneficially using dredged material in order to create more realistic cost/benefit analyses.

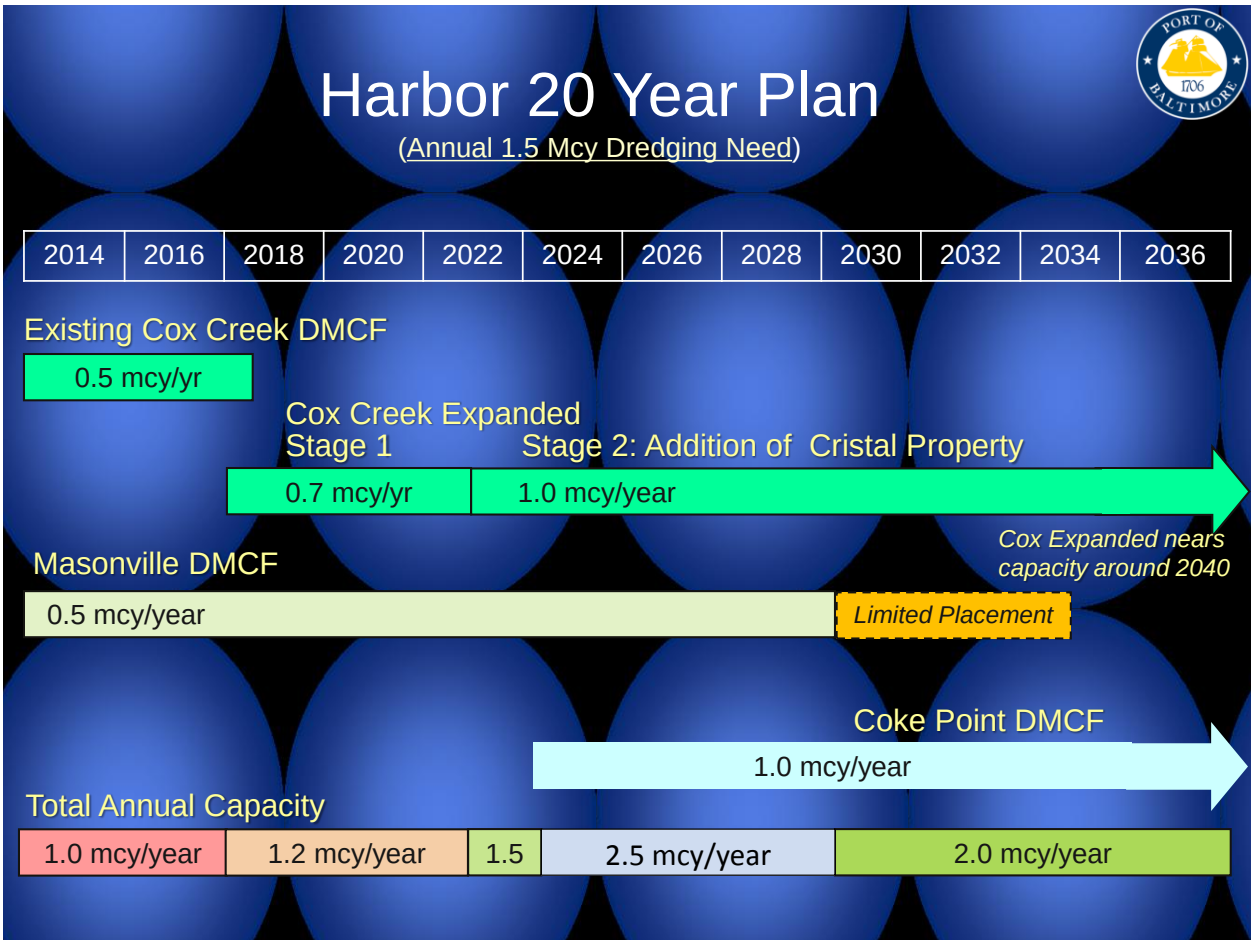
6. Explore potential alternative means of funding and financing for IR (e.g., MEDCO, Corps feasibility study, etc.) and ensure that incentives are considered.

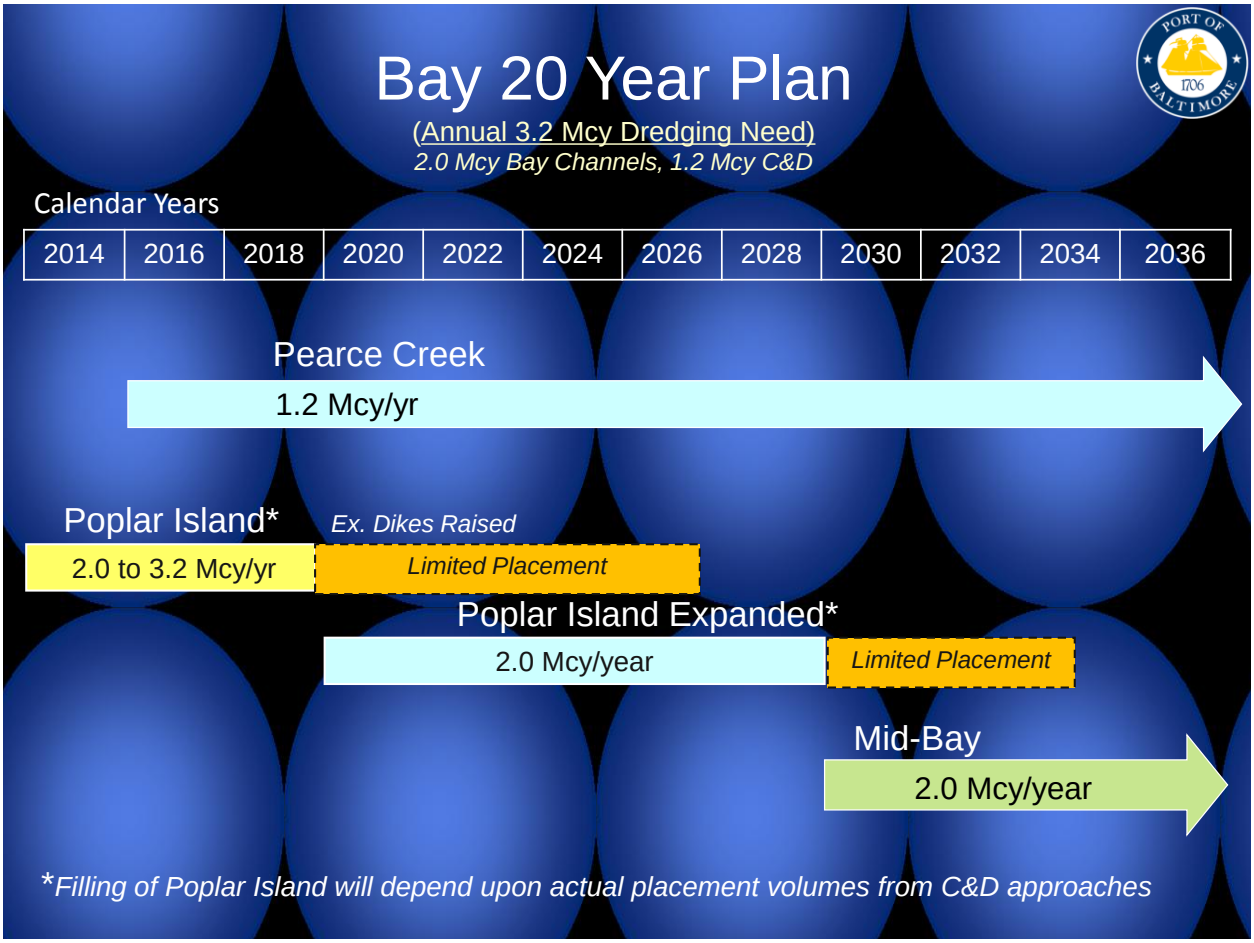
7. Investigate opportunities designed to foster research and innovation, such as tax credit programs, incubators, and university programs such as the MD Industrial Partnerships (MIPS) program at the University of Maryland.

8. Develop a contracting strategy that can be used to implement targeted innovative or beneficial use projects. To deal with MPA's inability to provide an absolute guarantee of dredged material quantities over time, identify possible alternative outcomes or remedies available to an innovative reuse offeror that may be acceptable to MPA in the event a given quantity is not provided over a given period. In other words, identify qualified or conditional guarantees, or arrangements in lieu of a guarantee, that might be possible.

9. Continue to engage in the current P3 process as a means for effecting capacity recovery in the Cox Creek DMCF, and seek additional opportunities for P3s in the operation and management of DMCFs as well as the innovative and beneficial use of dredged material.

APPENDIX 5: CURRENT 20-YEAR DREDGED MATERIAL PLACEMENT PLAN




Bay 20 Year Plan
(Annual 3.2 Mcy Dredging Need)
2.0 Mcy Bay Channels, 1.2 Mcy C&D
Calendar Years
2014
2016
2018
2020
2022
2024
2026
2028
2030
2032
2034
2036
Pearce Creek
1.2 Mcy/yr
Poplar Island*
Ex. Dikes Raised
2.0 to 3.2 Mcy/yr
Limited Placement
Poplar Island Expanded*
2.0 Mcy/year
Limited Placement
Mid-Bay
2.0 Mcy/year
*Filling of Poplar Island will depend upon actual placement volumes from C&D approaches

APPENDIX 6: HARBOR TEAM RECOMMENDATIONS FOR FURTHER STUDY COKE POINT BACKUP OPTIONS

Report to the Management Committee
and
Executive Committee of Maryland's
Dredged Material Management Program
September 15, 2011
EXECUTIVE SUMMARY

The Harbor Team considered 23 potential options for backup to Coke Point over a period of one year.
The Harbor Team agreed to the following recommendations:

Strengthening the standards that apply to all dredged material management and community enhancement options;

Convening a committee to investigate and recommend innovative methods of funding community enhancement projects;

Pursuing a placement site with community enhancements at Coke Point as vigorously as possible – with Coke Point remaining the Harbor Team's highest priority;

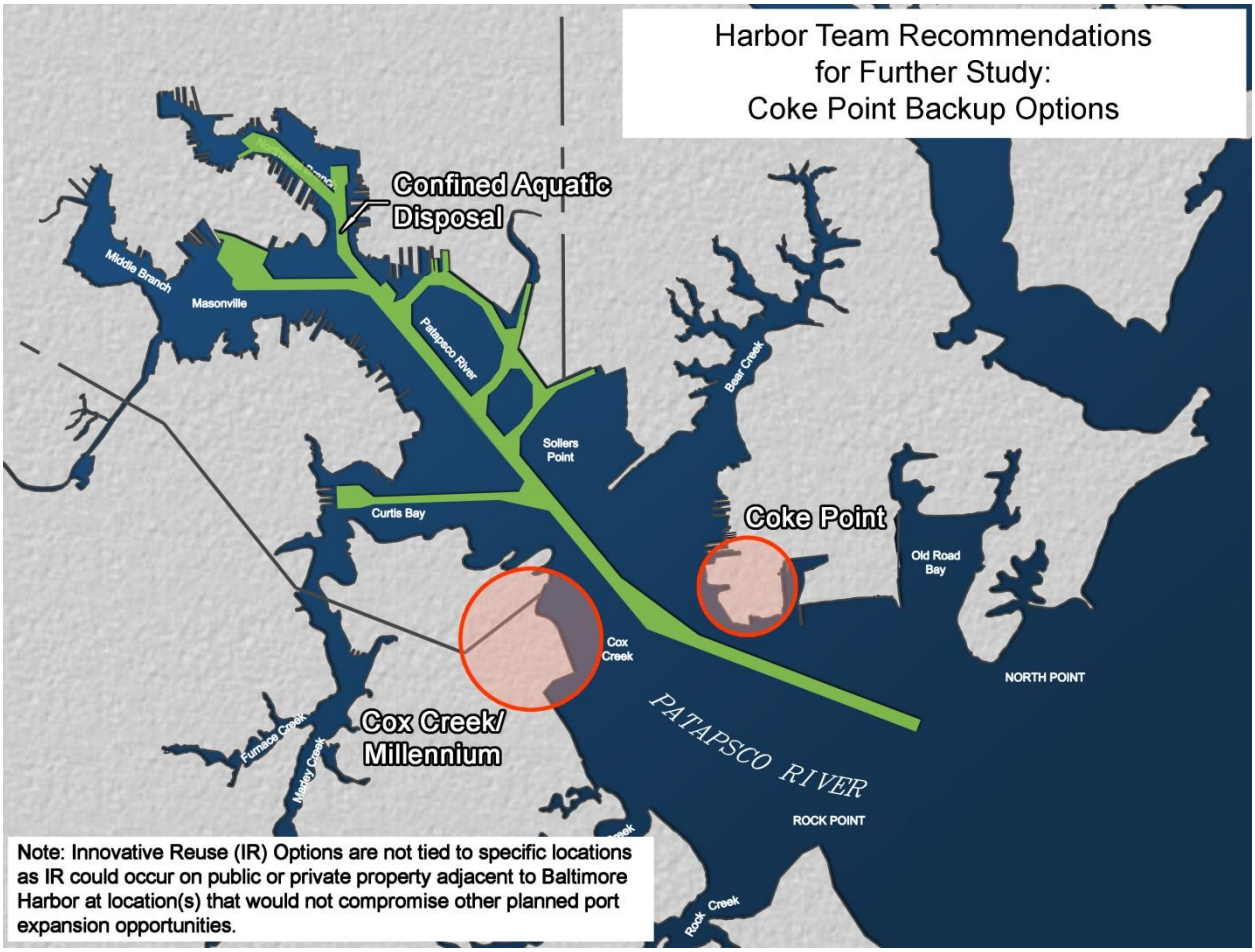
Conducting a feasibility study to assess innovative reuses already under consideration with a goal of innovatively reusing at least 500,000 cubic yards of dredged material per year by 2023 and answering questions necessary to determine if innovative reuse can become a viable part of the State's Dredged Material Management Program;

Coordinating a plan to conduct a pilot test of Confined Aquatic Disposal (CAD) to determine if MPA could obtain the necessary permits to conduct a pilot test; conducting a pilot test if permits are issued; and, if pilot tests results are favorable, conducting a feasibility study of the use of CAD for harbor materials;

Ranking the Combined Cox Creek Millennium option as the highest priority of the land-based backup options to Coke Point for further study with two provisos:

1. Conducting community outreach to determine whether or not raising the dikes on the existing Cox Creek Dredged Material Containment Facility would be acceptable; if not, this feature would be dropped from further consideration.

2. Holding public information meetings in Anne Arundel County and Baltimore City as close to the zip code of the option as possible.


Harbor Team Recommendations
for Further Study:
Coke Point Backup Options
Confined Aquatic Disposal
Middle Branch
Masonville
Patapsco River
Sollers Point
Curtis Bay
Bear Creek
Coke Point
Old Road Bay
Cox Creek
NORTH POINT
Cox Creek/ Millennium
Furnace Creek
Marley Creek
PATAPSCO RIVER
ROCK POINT
Rock Creek
Note: Innovative Reuse (IR) Options are not tied to specific locations as IR could occur on public or private property adjacent to Baltimore Harbor at location(s) that would not compromise other planned port expansion opportunities.